Fire modeling and social science analysis of fire managers' use of fire weather data across the US
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Protocol for Semi-Structured Interviews

1. What is your position and role in your agency? For our interview, please respond as this (one role) type of person.
2. To begin, let's talk generally about the information needs that are critical to decision making throughout a fire event.
    a. In general, what information do you need to decide how to respond to a fire ignition? How do you get this information?
        i. When thinking about how fire conditions may change over time, what information do you need to decide on the best management approach?
        ii. What information do you need to better manage fire conditions as they change across the landscape?
    b. What fire weather information is needed to make an informed decision?
        i. Do you use WFDSS and/or NFDRS?
            1. How confident are you in the information provided by these tools?
            2. What improvements would make them more usable for you?
    c. Are there tipping points where the fire danger/behavior information you receive triggers a different decision? What type of information causes the tipping point? Why?
    d. How often would you estimate initial attack is successful?
3. Now, walk us through the decision process as a fire progresses from initial attack to extended attack for the "typical" fire. Describing how a simple versus complex situation would differ is helpful.
    a. What are the main management objectives you consider throughout the event?
        i. For each objective, walk through what the respondent would do if they were maximizing each objective. For example, if you were trying to maximize public safety, what would you do? If you did not have to focus on public safety (and could focus just on ecology and landscape health), what would you do? Among the variety of options we've talked about, what would cause you to move from X approach to Y approach?
        ii. Do these objectives align with fire's natural role in the ecosystem? How? Why?

b. Could you talk a bit about if or how fire management objectives align with or address broader land management objectives for the landscape?
c. How do you decide when to send someone to a new ignition? What are the objectives and other factors considered?
    i. How do you decide on the size and structure of this initial attack? (and describe this attack)
    ii. What information or tools do you use to make these decisions? WFDSS and/or NFDRS? Other tools?
        1. What would make available tools/information more useful?
        2. How sensitive are the initial attack decisions to weather or fire danger/behavior tools (WFDSS/NFDRS/other)?
    iii. What if you were told you had almost 0% chance of successfully containing the fire? What is plan B?
d. How do you assess what resources are necessary to implement an extended attack? What are the objectives and other factors considered?
    i. As you make decisions about the type of approach you will use, amount of resources you will use, etc. what risks do you manage? What are the uncertainties? What are the key tradeoffs between potential management responses and preferred outcomes? How do you assess trade-offs between costs and benefits? How do you assess the tradeoff between short and long-term costs and benefits?
    ii. What information or tools do you use to make this decision? WFDSS and/or NFDRS? How sensitive is a prolonged attack decision to weather or fire danger/behavior tools? What would make available tools/information more useful?
e. What causes you to go to full suppression?
    i. Talk specific tactics – What causes you to call in aerial resources? What about requesting a Type 1 or Type 2 crew? Smokejumpers?
f. What are the linked impacts and decisions in this process, both temporally and spatially? Why are they linked?

4. Depending on interviewee, ask about the use of WFDSS and NFDRS for preparedness and how it could be improved for prescribed fire.
5. Summarizing question – Stepping back and looking at the big picture across large landscapes and across years and decades, how does our current fire management decision-making system handle

risks and tradeoffs? In what ways does our current system fail at doing this? What role does fire weather information play, if any?

6. Is there anything else we should know? Are there other agency personnel we should talk with?